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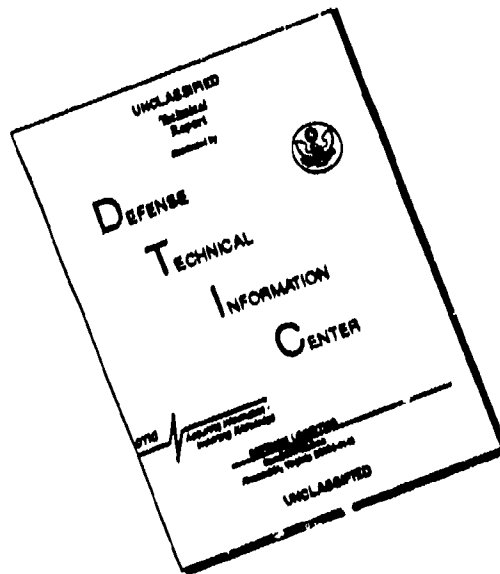
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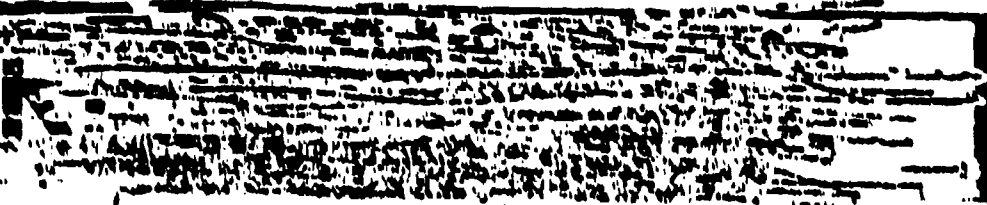
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Progress Report No. 1

Project No. 2086

THE FRANKLIN INSTITUTE
LABORATORIES FOR RESEARCH AND DEVELOPMENT
Philadelphia 3, Pennsylvania
Mechanical and Civil Engineering Division

Progress Report 1 August 1948 to 31 August 1948
On Activities in Connection with Project Blossom IV
Prepared under Contract W-19-122-ac-52

for

The Air Materiel Command
3100th Electronics Station
Cambridge Field Station
Cambridge, Massachusetts

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G. S. Hoell
G. S. HOELL
Division Director

W. J. Allen
W. J. ALLEN
Director

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Under the direction of:

Mr. G. S. Hoell, Division Director, Mechanical and Civil Engineering Division

Mr. W. F. Toed, Project Engineer

Distribution:

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Cambridge 30, Massachusetts
Attention: Dr. Marcus O'Day, ERCHL



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BLOSSOM IV PROJECT

A. Purpose and Scope.

1. The responsibility and function of The Franklin Institute in connection with the Blossom IV project as given in the contract W-19-122-ac-52 with the Watson Laboratories, Air Materiel Command, Red Bank, New Jersey, dated 1 August 1946, is to furnish engineering services, design, construction, and installation of special equipment and prepare changes in design of Blossom IV equipment as directed by Cambridge Field Station in accordance with requirements of the United States Air Force Upper Air Research Program. Dr. Marcus O'Day of the Air Materiel Command, 3160th Electronics Research Laboratory, Cambridge Field Station, Cambridge, Massachusetts, is the Project Engineer of this project.

B. Progress

1. General

- a. On August 2 a revised firing program was announced by Dr. O'Day. According to the new schedule the first three Blossom IV nose sections will be launched as follows:

Blossom IV-A	28 October 1948
Blossom IV-B	16 December 1948
Blossom IV-C	24 February 1949

- b. The task number "2086" has been assigned to the work being conducted for the Watson Laboratories, Red Bank, New Jersey.

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This was done to separate all expenditures from those charged against the contract with Wright-Patterson Air Force Base.

- c. Austin Hogan reported to the Electronics Research Laboratory, Watertown Arsenal, Watertown, Massachusetts, on 18 August 1948. Mr. Hogan will act in the capacity of Liaison Officer between the Electronics Research Laboratory and The Franklin Institute.
- d. The Franklin Institute requested additional funds in the amount of \$12,500.00 from the Contracting Officer, Wright-Patterson Air Force Base to complete the construction of Blossom IV components as agreed to in conferences between representatives of the Wright-Patterson Air Force Base, the Electronics Research Laboratory, and The Franklin Institute on 7 July 1948. A notice of award of additional funds was received from the Contracting Officer.
- e. A conference at the White Sands Proving Ground has been scheduled for 6-10 September. The purpose of this meeting will be to coordinate all matters pertaining to the firing of Blossom IV-A.

2. Nose Section.

During an inspection trip of Dr. O'Day, P. Nicodemus and W. F. Gould at the Cook Research Laboratories on 2 August 1948, a discussion was held on the weight of the Blossom IV-A nose section components. Since the weight of the structure seemed to preclude carrying the desired complement of coordinated instrumentation Dr. O'Day requested that The Franklin Institute go over all parts of the nose section to eliminate unessential weight. The Franklin Institute immediately began reviewing the complete structure. On 5 August 1948 Mr. J. Lohr attended a meeting with members of the Equipment Laboratory who suggested a number of changes in the parachute compartment, brake parachute bulkhead, and other parts of the Blossom IV-A nose section for purposes of weight saving. The Equipment Laboratory formally requested the following design modifications in a letter to Dr. W. O'Day:

- a. Remove the top half of the circular channel at the bottom of the instrument rack Station 30.
- b. Remove the 3/16-in. aluminum sheet at Station 30 between the 'I' section and replace with a removable thin sheet of aluminum or plywood.

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- c. Remove heavy angles at Station 30 attached to hat sections and angles for main parachute attachment spools. Replace with a gusset plate attached to each side of the longeron at the upper edge of the parachute compartment to accommodate the spools (2-in. wide). The pin diameter should be 0.750-in. plus 0, minus 0.1. Eight (8) point suspension for the main parachute.
- d. Discard present bulkhead and mortar design.
- e. Redesign new light weight bulkhead with brake parachute compartment located either in center or off-center as desired. Eight (8) point suspension should be provided, with suspension points as near the release pins as possible. Suggest bulkhead be moved forward slightly to permit yoke, similar to Blossom III, to clear top of control compartment and also to give sufficient space for running the bridle attachments from suspension points to the main parachute compartment.
- f. Redesign the present control compartment to accommodate the four (4) point ejection system used by Bell Aircraft Company in Blossom III. Suggest the four ejection pistons be considered for location in the control compartment and not in the nose. This should definitely be sealed during the high altitude firing.
- g. If the control compartment is redesigned the weight can be decreased by an amount equal to the weight of the Bell ejection system.
- h. Most of the parts required for the Bell system are available here and can be furnished if desired.

It is recommended that the above changes be incorporated into a standard design of the Blossom IV and definite commitments be secured from The Franklin Institute as to when the complete reproducible drawings and specifications will be available."

A conference was held at The Franklin Institute on 11 August 1949 between Dr. M. O'Day, Major J. Fletcher, Mr. G. S. Hoell, Mr. W. F. Gould, and Mr. W. Lohe regarding the redesign and lightening program proposed by this station. A letter, dated 11 August 1949, was given to Dr. O'Day which outlined the suggested program. The principal items in this program follow:

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- a. Redesign of the control compartment to install the Bell Aircraft Corporation ejection system. To accomplish this, two complete sets of the Bell ejection system were requested from the Equipment Laboratory, Wright-Patterson Air Force Base.
- b. Redesign of the parachute compartment and the bulkhead at Station 30. The bulkhead at Station 34 will also be redesigned and will be provided with release fittings and eight (8) suspension fittings. Eight (8) suspension fittings for the main parachute will be provided in the parachute compartment.
- c. The mild steel nose cone will be lightened by removing as much weight as possible during final machining. Aluminum is suggested as a possible material for the second nose cone.
- d. Excess weight will be removed from the two instrument compartment racks. It is planned to reduce the thickness of the skin of the second nose section from 0.093-in. to 0.072-in. This will save 35-lb. and will provide adequate strength in the skin.
- e. Work on the ejection mortars has been discontinued.
- f. Design work and manufacturing supervision will be carried on by adding four designers and draftsmen to the skeleton staff. General assembly drawings and sketches will be made by the design group and components will be made under close supervision to expedite manufacture. Complete reproducible drawings for the Air Materiel Command will be prepared by approximately October 15.

A weight chart was appended to the letter, mentioned above, which revealed that the amount of instrument payload available was within 50-lb. of the original estimate of 1050-lb. and thereupon, Dr. O'Day gave his consent to the program. Approval of an aluminum nose cone, however, was withheld until the following week.

Formal approval of the program was given by the Electronics Research Laboratory in a letter dated 20 August 1948. The Franklin Institute was authorized to observe the following procedures:

- a. Redesign and fabricate the control chamber which will house the Bell Aircraft Separation equipment and install such equipment. Equipment Laboratory will provide Bell Aircraft

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Separation equipment and be responsible for technical supervision of same.

- b. Redesign and fabricate the parachute compartment to provide for use of the Bell Aircraft Separation equipment and provide for the use of a main parachute and brake parachute. Engineering designs are to be submitted to Equipment Laboratory for approval prior to manufacture.
- c. The parachute bulkhead is to be redesigned for lighter weight, with the brake parachute compartment located either in center or off center as desired. Eight point suspension should be provided, with suspension points as near the release pins as possible.
- d. The Equipment Laboratory is to provide and install aneroid devices for separation of parachutes.
- e. The Equipment Laboratory is to provide photographic equipment for recording of technical data.
- f. The Franklin Institute is to install the parachute instrumentation provided by the Equipment Laboratory.
- g. Complete the manufacture of the steel nose cone and reduce weight as much as possible. This nose cone is to be ready for delivery to Cambridge Field Station, 25 August 1948.
- h. Fabricate a second nose cone of aluminum. If possible this is to be available for 28 October 1948 firing.
- i. Lighten instrument rack sections as much as possible.
- j. Skin section of the Blossom IV-B assembly is to be Aluminum .072 inches in thickness.
- k. Equipment Laboratory will provide a second Bell Aircraft Separation assembly for 16 December firing; the Franklin Institute is to install this equipment when available.
- l. Cambridge Field Station will supervise the installation of instrumentation and assume responsibility for the proper placement of the center of gravity.

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- m. Forward final weights of components and assemblies as fabrication is completed to Cambridge Field Station.

The Franklin Institute investigated the weight requirements of the White Sands Proving Ground for general rocket control equipment and discovered that the combined weight of all missile control equipment was 297-lb. instead of the 628-lb. originally assigned. Adding 13-lb. for wiring and miscellaneous items, The Franklin Institute found that a total weight of 310-lb. was required for control equipment and that the instrument payload could be increased by an additional 318-lb. According to the new figures the redesigned nose section, using a full complement of parachutes and a 100-lb. bulkhead at Station 34, will allow an instrumentation payload of 1380-lb. in a 9230-lb. missile.

a. Nose Cone.

- (1) The aft ring at Station 11 was completed on 2 August and the entire steel nose cone was assembled and machined.
- (2) Since the Electronics Research Laboratory had requested that the nose cone be made as light as possible without endangering the strength of the structure, the Jennings Machine Company was instructed to "hog" out all excess metal in the fore and aft rings at Stations 3, 6, and 11. The skin of the steel nose cone was also machined to a minimum thickness of 1/4-in. in an effort to lighten its weight. At the conclusion of these lightening measures the aft ring at Station 11 was taken to the Ludwig Honold Manufacturing Company and fitted to the Zone A skin segment of the instrument compartment.
- (3) Pressurization tests on the assembled nose cone were conducted at the Jennings Machine Company on 26 August 1948 with Mr. Marshall of the Electronics Research Laboratory in attendance. Plates and gaskets for sealing the top and bottom of the nose cone were made and fastened to the aft ring at Station 3 and the aft ring at Station 11. An air pressure of twenty (20) pounds per square inch was built up inside the nose cone and the loss of pressure was approximately five (5) pounds during the first five (5) minutes and five (5) pounds during the next twenty-five (25) minutes. The leakage was attributed to several screws

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in the aft ring at Station 11 which were not entirely sealed. Mr. Marshall expressed approval of the nose cone. The nose cone was then crated and shipped to the Electronics Research Laboratory on August 31. The estimated weight of the complete steel nose cone is approximately 300-lb.

- (4) Manufacture of the rack and well section, designed to hold components of the Luxembourg equipment, has been withheld until a more complete knowledge of the final requirements of the Luxembourg equipment has been established by the Electronics Research Laboratory.
- (5) Two blocks of Grade "A" lava, a product of the American Lava Corporation, were received at The Franklin Institute on 4 August 1948. These lava blocks, 8 1/2-in. x 8 1/2-in. x 12 1/2-in., are to be machined and fired to make a suitable insulator between the Luxembourg probe and the steel nose cone. Detail drawings of two designs of lava insulators were made by The Franklin Institute and forwarded to the Electronics Research Laboratory. One design (Drawing C-3-2086.6) was 14 11/16-in. in total overall length and incorporated a skirt, approximately three inches long, on its lower end. The second design (Drawing C-4-2086.6/1), had no skirt and was only 11 11/16-in. long. A drawing, showing the assembly of insulator design C-3-2086.6 and the steel ring at Station 3 was also completed (Drawing B-8-2086.6/1) and sent to the Electronics Research Laboratory.

The Electronics Research Laboratory decided, on August 18, to use design C-3-2086.6 for making the nose cone insulators. This meant that the lava already on hand could not be used, inasmuch as it was not long enough. However, it was felt that the more uniform wall thickness of this design offered a better possibility of successfully heat treating the lava after machining had been accomplished. The longer insulator also provided better insulating properties and greater ease of assembly. These factors justified the obtaining of lava blocks of greater dimensions, and so The Franklin Institute was authorized to secure three (3) new pieces of lava having dimensions of 8-in. x 8-in. x 16-in. from the American Lava Corporation. The Franklin Institute

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arranged with the supplying facility for securing the new lava and for the return of the smaller blocks for full credit. Mr. Rifkin of the American Lava Corporation stated that the probability of loss of pieces of such size in the heat treating process was high but that every precaution would be taken to prevent damage. Rifkin suggested that it might be possible to make the insulators from some of the types of cast steatite, i.e. AlSiMag No. 196, which has a loss factor of 0.053 on 1 megacycle. In accordance with this suggestion, a copy of the Drawing No. C-1-2086.6/1, showing one of the designs for the porcelain insulator, was sent to Mr. Rifkin for study and cost estimates. Bids for the machining of the lava insulators were requested on 19 August 1948, and, since, the lowest bid was received from the Franklin Institute Shop, the work was authorized to be done at this station. At the end of August the machining of the lava blocks was in process.

- (4) Two sketches of an insulator to be made of porcelain by the Lapp Insulator Company, were received at The Franklin Institute on 5 August 1948. Detail drawings of these insulators (C-1-2086.6/1 and C-2-2086.6/1) were made by The Franklin Institute and sent to the Electronics Research Laboratory so that manufacture of the insulators could proceed at the Lapp Insulator Company. Since the nose cone steel ring at Station 3 needed modification to conform with the porcelain insulators, the Electronics Research Laboratory authorized that four (4) steel rings (Drawing C-5-2086.6/1), designed by The Franklin Institute, be furnished by The Institute. Drawings showing the assembly of the new rings to each of the porcelain insulators (Drawings B-6-2086.6/1, B-7-2086.6/1) were prepared and sent to the Electronics Research Laboratory on 11 August 1948. It was requested that the new rings be fitted to the nose cone at The Franklin Institute and then shipped to the Lapp Insulator Company. Bids for the manufacture of the four (4) nose cone rings for Station 3 were furnished to the Electronics Research Laboratory and the manufacture of these items approved. When these rings are received from the William Steuer Company, they will be fitted to the nose cone if it is still available in Philadelphia, otherwise, the fitting and finishing work on these rings will have to be done at the Electronics Research Laboratory.

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- (7) The investigation of glass for making insulators is being studied by the Electronics Research Laboratory. An estimate for making glass insulators, in accordance with The Franklin Institute Drawing No. C-1-2086.6/1, was requested from the Corning Glass Works on 26 August 1948.
- (8) During the visit of Mr. Marshall, of Electronics Research Laboratory, to this station on 26 August 1948 a discussion was held on the nose probes for the nose cone insulators which the Franklin Institute had been requested to furnish. As a result of the discussion, The Franklin Institute prepared detail drawings of the antenna (Drawing A-14-2086.6), retaining ring (Drawing A-16-2086.6), washer (Drawing A-17-2086.6), and two types of conductors--the so called "long" type (Drawing A-19-2086.6) to be used in one design of the porcelain insulator (Drawing C-1-2086.6), and the "short" type (Drawing A-15-2086.6) for use in both the second design of porcelain insulator (Drawing C-2-2086.6) and in the lava insulator (Drawing C-3-2086.6). Assembly drawings were also prepared showing the method of installation of the above probe components in the lava insulator (Drawing C-11-2086.6) and in the porcelain insulators (Drawings C-12-2086.6 and C-13-2086.6). The probe drawings were sent out for manufacturing bids during the last week of August.
- (9) Verbal authorization for The Franklin Institute to proceed with the preparation of drawings and fabrication of an aluminum nose cone was given on 18 August 1948. This cone is to be similar in construction to the steel nose cone and is to be considered optional for use on the Blossom IV-A nose section, if it can be completed in time for the firing. The drawings of the aluminum nose cone were completed on 30 August.

b. Instrument Component.

- (1) Final riveting of the skin sections for Blossom IV-A was carried on during the early weeks of August. At the conclusion of final machining and lightening of the aft ring for Station 11, the ring was fitted to the Zone A skin section and the riveting operations completed. On 31 August the skin segment for Zone A

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of the Instrument Compartment was crated and sent to the Electronics Research Laboratory to be assembled to the steel nose cone.

- (2) In keeping with the redesign and lightening program approved by the Electronics Research Laboratory, the Franklin Institute, during the month of August, prepared drawings showing a much simpler and lighter assembly at Station 30. This was made possible when withdrawal of the requirement for pressurization no longer justified the heavy assembly which had already been designed and manufactured. The heavy angles attaching the longerons to the spider arms of the Station 30 bulkhead have been eliminated and these are replaced by gusset plates which extend into the parachute compartment and act as spool holders for the eight (8) main parachute bridles. To accommodate the gusset plates the "I" beams, forming the bulkhead spider arms, were trimmed on each side. The outer ends of all spider arms were also cut off flush with the outer faces of the longerons. The entire heavy circular channel around the periphery of the bulkhead at Station 30 was discarded and the Zone E skin section was extended to the bottom of the spider at Station 30. The 3/16-in aluminum plate at Station 30 was cut out and a 1/16-in. skin was added to the parachute compartment. Changes shown on the drawings are being made to the Blossom IV-A and IV-B instrument racks at the Ludwig Monold Manufacturing Company under close supervision of Franklin Institute personnel.
- (3) A conference was held on 2 August 1948 at the Cook Research Laboratories in Chicago to discuss technical problems attendant with the installation of the Mass Spectrometer which will be included in Blossom IV-B. In order to maintain a continuous supply of fresh water to the Mass Spectrometer for cooling purposes while the missile is on the ground, The Franklin Institute personnel suggested that quick connection valves should be provided both in the skin of the instrument compartment and in the tail of the rocket. The problem of breaking electrical continuity into the Mass Spectrometer during pre-firing tests of the pull-away plug was discussed and The Franklin Institute suggested that the Cook Research Laboratories request eight (8) conductors in the tail plug of the missile.

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The size and weight of the Mass Spectrometer were given as:

<u>Size</u>	15-in. x 19-in. x 45-in.
<u>Weight</u>	Mass Spectrometer 430-lb. approx.
	Pressurization 63-lb. approx.
	Batteries <u>180-lb. approx.</u>
	<u>Total</u> 645-lb.

- (4) At the request of the University of Oregon, the inside diameter of the skin at Stations 26, 27, and 28 and the thickness of the skin for Blossom IV-A and IV-B were forwarded for use in installing their Scintillation Counter equipment. Prints of The Franklin Institute drawings E-151-1906.4/1, Instrument Rack Assembly, E-169-1906.4/1, Outer Skin Assembly, and C-197-1906.4/1, Zoning and Access Diagrams were also sent.
- (5) A telemetering transmitter and battery box for installation in Blossom IV-A was received from the White Sands Proving Ground on August 26, 1948.
- (6) A structural designer has been requested by the Electronics Research Laboratory to visit that station for the purpose of obtaining information and measurements to be used in making brackets for the common power supply and other pieces of instrumentation. Mr. W. Hayes of The Franklin Institute has reported to the Electronics Research Laboratory for this purpose.

c. Parachute Compartment.

- (1) A conference was held at the Wright-Patterson Air Force Base on August 4, 1948 between personnel of the Equipment Laboratory and the Electronics Research Laboratory. At this conference it was definitely decided that the four (4) point Bell Aircraft Corporation separation mechanism would be used in the Blossom IV nose sections instead of the mortar designed by The Franklin Institute. The Franklin Institute was informed of this change and work on the mortar was stopped immediately. It was also

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decided to eliminate the brake parachute bulkhead at Station 34 in Blossom IV-A and attempt recovery of the nose section using only the brake chute attached to the main parachute supervision points.

- (2) On August 5, 1948 Mr. Lohr of The Franklin Institute conferred with personnel of the Equipment Laboratory and it was recommended that the heavy bulkhead at Station 34 be eliminated and that a new light weight bulkhead with a brake parachute compartment be designed. Eight (8) points of suspension were suggested with the suspension points kept as near the release pins as possible.
- (3) In accordance with the above recommendations, The Franklin Institute proposed to Dr. O'Day on August 11 that the parachute compartment and the bulkheads at Station 30 and 34 be redesigned to use the Bell Separation Mechanism and provide eight (8) point suspension for both brake and main parachutes near the outer edge of the bulkheads.
- (4) Formal approval of the Franklin Institute program was given on August 20, 1948. The Electronics Research Laboratory stated that all engineering designs for the parachute compartment were to be submitted to the Equipment Laboratory for approval prior to manufacture.
- (5) Redesign of the parachute compartment and the brake parachute bulkhead at Station 34 was begun during August.

d. Control Compartment.

- (1) All bids for the manufacture of the control compartment were cancelled during the first week of August when it was obvious that the control compartment would need to be redesigned to accommodate the Bell Separation Mechanism instead of The Franklin Institute mortar. Redesign work was begun immediately at The Franklin Institute, since the control compartment is one of the components needed very early in the construction of the V-2 missile. On August 6 Mr. W. F. Gould called the Equipment Laboratory to request that the complete Bell Aircraft Separation Mechanism be sent to this station as soon as possible so that design work could proceed. The separation mechanism was delivered to The Franklin Institute on 23 August 1948.

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- (2) Since the redesign of the control compartment would not affect the construction of the access doors, actual manufacture of these components was begun on August 10, 1948. Two (2) each of the four (4) doors for this compartment were ordered. These doors are scheduled for completion on September 15, 1948.
- (3) The Franklin Institute requested that the proper powder charges for the separation mechanism be provided by the Bell Aircraft Corporation and that pressurizing gaskets for the ejection cylinder be sent to this station so that they may be installed before the nose section is shipped to the White Sands Proving Ground.
- (4) Since the main pressure cylinder of the separating mechanism is too long to be placed upright at the intersection of the quadrant bulkheads, sketches are being prepared of suggested locations for the cylinder. These sketches will be sent to the White Sands Proving Ground for consideration and approval.
- (5) The layout drawing for the control compartment was completed on August 25 and a print was sent to the Ludwig Monold Manufacturing Company at once in order to expedite manufacture. Delivery date of this material is scheduled for September 15.
- (6) Detail drawings of the jettisoning fittings are being prepared so that these parts can be made in The Franklin Institute Shop.
- (7) The control compartment has been scheduled for shipment to the White Sands Proving Ground on September 27, 1948.

e. Mortar.

- (1) Manufacture of The Franklin Institute mortar was stopped on August 4, 1948 in accordance with a telephone call from Dr. O'Day at Wright-Patterson Air Force Base. The Bell Aircraft Separating Mechanism is to be used for ejecting the Blossom IV-A nose section.

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f. Fairing.

- (1) This Station was advised on August 9 that the assembly drawing of the alcohol vent pipe was approved by the White Sands Proving Ground and would be fabricated and installed by the General Electric Company.
- (2) Designs for the middle body fairing were completed during this month and sent out for manufacturing bids.

g. Control Equipment.

- (1) The Equipment Laboratory has been requested by the Electronics Research Laboratory to send 250 Air Force Squibs Type 8300-NL to The Franklin Institute for testing the brake parachute bulkhead release mechanisms and for use in the final firing of Blossom IV-A.
- (2) A letter was received from the Cannon Electric Development Company quoting a price of \$207.00 each for 80 contact pull-away plugs and \$74.00 each for the sockets in lots of 10. All contacts are insulated for 120 volts and 400 cycles. Contacts #1 through #72 will accommodate #14 wire and contacts #73 through #80 will accommodate #8 wire. This information was forwarded to the Electronics Research Laboratory.
- (3) A "bread-board" model of the pulsing unit is under construction at this station. This unit will be housed in a pressurized and temperature controlled container (Drawing C-254-1906.4/1) which is now being fabricated. The time pulse unit uses a conventional relaxation type of oscillator circuit which triggers the grid of a pentode tube to operate a master relay. The master relay, in turn, functions a series of stepper relays in the control equipment. The control equipment will provide for any required number of circuit closures at any desired time interval within a one-hour period, either simultaneously, consecutively, or in any other manner required by the instrumentation. Testing of this equipment is under way and it is expected that the equipment will be accurate within 5% over the one-hour operating period.

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- (4) Since the control equipment cannot be made up until all of the functions required of it are known, The Franklin Institute requested Electronics Research Laboratory to obtain information on the control requirements of all the participating agencies. This material should be sent to The Franklin Institute not later than September 27, 1948


W. F. GOULD
Project Engineer

August, 1948

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BLOSSOM CONTRACT #19-122-ac-52

Total Blossom Contract 96,200 • Expended to 1 September 1948 37,548.21
 Balance to 1 September 1948 -1,548.21

Man Hours Estimated 2 August 1948 to 1 September 1948

Class # - 2345 hours
 IV

Total Blossom IV Expenditures to 1 September 1948

	Salary and Labor	Materials	Overhead	Total
Blossom IV	44,235.04	\$1,021.64	\$2,289.53	\$7,548.21

• Does not include indirect costs under investigation.

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SUPPLEMENTARY

INFORMATION



DEPARTMENT OF THE AIR FORCE
PHILLIPS LABORATORY (AFMC)

ERRATA

17 Aug 94

MEMORANDUM FOR DEFENSE TECHNICAL INFORMATION CENTER (DTIC)
CAMERON STATION
ALEXANDRIA VA 22304-6145

FROM: OL-AA PL/SXA
29 Randolph Road
Hanscom AFB MA 01731-3010

SUBJECT: Removal of Limitation on Documents

1. I have reviewed the following documents and have determined that the limitation associated with them is no longer appropriate:

- a. Number: AD B968841 (formerly ATI 87590)
Title: Progress Report 1 August 1948 to 31 August 1948 on
Activities in Connection with Project Blossom IV

b. [REDACTED]

Both of these documents contain the limitation:

"This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U. S. C. 31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law."

2. Request this limitation be removed from the documents and assigned Distribution A Statement.

ERRATA.

C. Neal Stark
C. NEALON STARK
Director
Aerospace Engineering Division

AD-B 968841

CC:
OL-AA PL/IMD

151.20/14